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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,354	10/31/2003	Douglas paul Beneteau	134354	2531

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EXAMINER	
AFZALI, SARANG	

ART UNIT	PAPER NUMBER
3729	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/699,354	BENETEAU ET AL.	
	Examiner	Art Unit	
	Sarang Afzali	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *8-19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10312003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I drawn to claims 1-7 in the reply filed on 03/09/2006 is acknowledged.

The traversal is on the ground(s) that according to the Applicant the inventions set out by the claims in Groups I, II, III clearly are related and thus It is believed that a thorough search and examination of either claim group would be relevant to the examination of the other group and further states that requirements for restriction are not mandatory under 35 U.S.C. Accordingly, reconsideration of the restriction requirement is requested.

This is not found persuasive because the three groups of inventions are indeed distinct from one another as combinations and subcombinations that have different utilities and do not require particulars of each other.

The requirement is still deemed proper and is therefore made FINAL.

Claims 8-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 03/09/2006.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randolph Jr. et al. (U.S. 6,453,211) in view of Li et al. (US 2006/0021680).

4. As applied to claim 1, Randolph Jr. et al. teach a method of repairing a damaged gas turbine blade comprising of the steps:

removing titanium alloy material from along leading and trailing edges of the airfoil, and along a radially outer tip of the airfoil to form respective leading edge, trailing edge, and tip cutbacks, with each define cut-back depths;

depositing titanium weld material onto the leading edge, trailing edge, and tip cut-backs; and

removing at least some of the titanium weld material to obtain pre- desired finished dimensions for the leading and trailing edges, and radially outer tip.

Note that Randolph Jr. et al. teaches (Fig. 3 and col. 2, lines 14-29 and col. 9, lines 44-54) the three steps of invention cited including first step of removing titanium material from the damaged area of the leading edge (42) of each blade (12b), second step of depositing titanium weld material onto the leading edge (42) of each blade (12b), and third step of removing at least some of the titanium weld material to obtain a desired finish for each blade (12b) and further teaches that the same procedure can be made on the trailing edge (44, Fig. 3, col. 9, lines 44-46) of each blade (12b).

Randolph Jr. et al. fails to explicitly teach the repair done on "a radially outer tip of the airfoil".

However, Li et al. teach a method wherein a tip portion (28, Fig. 2) of an airfoil (22) of a compressor blade (10) is deposited with weld filler material made of a burn resistance titanium alloy (paragraph [0029], lines 1-10) to prevent it from burning if friction occurs between a titanium alloy compressor blade and a compressor casing during operation of the gas turbine engine (paragraph [0004], lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided Randolph Jr. et al. with the repair of the outer tip portion as taught by Li. et al. to provide an effective way of preventing burning of the tip portion of the blade due to friction with the casing.

5. As applied to claim 2, Randolph Jr. et al./Li et al. teach a method wherein removing titanium alloy material further comprises machining away titanium alloy material along only the radially outermost portions of the leading and trailing edges extending from the tip towards a base of the airfoil (Fig. 3).

6. As applied to claim 3, Randolph Jr. et al./Li et al. teach a method wherein machining away titanium alloy material along only the radially outermost portions of the leading and trailing edges further comprises forming a rounded corner between the leading edge and trailing edge cut-backs and un-machined portions of the airfoil extending between the leading and trailing edge outermost portions and the base of the airfoil (Fig. 3).

7. As applied to claim 4, Randolph Jr. et al./Li et al. teach a method wherein forming a rounded corner between the leading edge and trailing edge cut-backs and un-

machined portions of the airfoil further comprises forming a semi-circular corner that has a predetermined arc and radius of curvature (Fig. 3).

8. As applied to claim 5, Randolph Jr. et al./Li et al. teach a method wherein machining away titanium alloy material along only the radially outermost portions of the leading and trailing edges further comprises machining away titanium alloy material along a length of about half a span of the airfoil between the tip and the base of the airfoil (Fig. 3).

9. As applied to claim 6, Randolph Jr. et al./Li et al. teach a method wherein machining away titanium alloy material along only the radially outermost portions of the leading and trailing edges further comprises blending the titanium weld material (Fig. 3).

10. As applied to claim 7, Randolph Jr. et al./Li et al. teach a method wherein machining away titanium alloy material along only the radially outermost portions of the leading and trailing edges further comprises contouring the leading edge (Fig. 3).

Double Patenting

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 1-7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7, and 14 of U.S. Patent No. 6,532,656 in view of Randolph Jr. et al. (U.S. 6,453,211).

Although the conflicting claims are not identical, they are not patentably distinct from each other because Wilkins et al. ('656) teach that it is well-known in the art to have metals as the material of the blade and weld material (col. 1, lines 29, 40, and col. 2, lines 1, 8, & 9) but it do not explicitly teach the material of the blade is "titanium".

However, Randolph Jr. et al. teach a method of repairing a damaged gas turbine blade wherein the material of the turbine blade (12b, Fig. 3) is titanium (col. 2, line 14-16).

13. As applied to claim 1, Wilkins et al. ('656, claim 1) in view of Randolph Jr. et al. teach a method of repairing a damaged gas turbine blade comprising of the steps:

removing titanium alloy material from along leading and trailing edges of the airfoil, and along a radially outer tip of the airfoil to form respective leading edge, trailing edge, and tip cutbacks, with each define cut-back depths;

depositing titanium weld material onto the leading edge, trailing edge, and tip cut-backs; and

removing at least some of the titanium weld material to obtain pre- desired finished dimensions for the leading and trailing edges, and radially outer tip.

14. As applied to claim 2, Wilkins et al. ('656, claims 1-2) in view of Randolph Jr. et al. teach a method of repairing a damaged gas turbine blade wherein removing titanium alloy material further comprises machining away titanium alloy material along only the radially outermost portions of the leading and trailing edges extending from the tip towards a base of the airfoil.

15. As applied to claim 3, Wilkins et al. ('656, claims 1-3) in view of Randolph Jr. et al. teach a method of repairing a damaged gas turbine blade wherein machining away titanium alloy material along only the radially outermost portions of the leading and trailing edges further comprises forming a rounded corner between the leading edge and trailing edge cut-backs and un-machined portions of the airfoil extending between the leading and trailing edge outermost portions and the base of the airfoil.

16. As applied to claim 4, Wilkins et al. ('656, claims 1-3 & 14) in view of Randolph Jr. et al. teach a method of repairing a damaged gas turbine blade wherein forming a rounded corner between the leading edge and trailing edge cut-backs and un-machined portions of the airfoil further comprises forming a semi-circular corner that has a predetermined arc and radius of curvature.

17. As applied to claim 5, Wilkins et al. ('656, claims 1-2 & 5) in view of Randolph Jr. et al. teach a method of repairing a damaged gas turbine blade wherein machining away titanium alloy material along only the radially outermost portions of the leading

and trailing edges further comprises machining away titanium alloy material along a length of about half a span of the airfoil between the tip and the base of the airfoil.

18. As applied to claim 6, Wilkins et al. ('656, claims 1, 2, 4, & 6) in view of Randolph Jr. et al. teach a method of repairing a damaged gas turbine blade wherein machining away titanium alloy material along only the radially outermost portions of the leading and trailing edges further comprises blending the titanium weld material.

19. As applied to claim 7, Wilkins et al. ('656, claims 1, 2, 4, 6 & 7) in view of Randolph Jr. et al. teach a method of repairing a damaged gas turbine blade wherein machining away titanium alloy material along only the radially outermost portions of the leading and trailing edges further comprises contouring the leading edge.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarang Afzali whose telephone number is 571-272-8412. The examiner can normally be reached on 7:00-3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.A.
03/31/2006

GEORGE NGUYEN
PRIMARY EXAMINER